

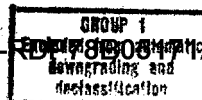
MEMORANDUM FOR THE RECORD

SUBJECT : Trip Report

25X1 1. On 6 October 1969, the Personnel Research Division of the Air Force Human Resources Laboratory was visited at Lackland Air Force Base, San Antonio, Texas. Contacted were Dr. [] the Deputy Division Chief, and Dr. [] Chief of the Occupational and Career Development Groups. The Personnel Research Division is the Air Force's focal point for recruitment and performance measurement research. It has developed over the past fifteen years probably the U.S. Government's most advanced capability in the field of occupational and career management. Techniques developed for obtaining task and attitude inventories are especially relevant to future NPIC personnel management requirements. Studies of skill perishability, specialization versus generalization, "job reengineering," and worker motivation are also of significant interest. The undesirable situation in which Air Force intelligence personnel are "overselected, overtrained, and underutilized" is being corrected by Personnel Research Division efforts, and a parallel need probably exists at NPIC. Of particular application may be an "Occupational Survey of the Intelligence Operations and Photo Interpretation Career Ladders," a copy of which has been requested. It is recommended that RED/[] and OMS/Psychological Services Staff personnel involved in the "PI Process Research" program become fully aware of the past findings and present capabilities of the Personnel Research Division. It is also recommended that a visit be made by [] personnel to the other half of the Air Force Human Resources Laboratory, the Training Research Division located at Wright-Patterson Air Force Base, Dayton, Ohio. (See Attachments 1 and 2.)

25X1 2. On 7 October 1969, the Imagery Interpretation Branch, Surveillance Division of the Army Test and Evaluation Command was visited at Fort Huachuca, Arizona. Contacted was [] Chief of the Branch. Headquarters of the T&E Command is at Aberdeen Proving Ground, Maryland, but the Surveillance Division is run primarily from Fort Monmouth, New Jersey. The Imagery Interpretation Branch at Fort Huachuca is responsible for the testing and evaluation of all optical, electro-optical, and mechanical devices in support of the Army's entire reconnaissance collection and imagery exploitation program. Cameras, low light level TV systems (for Belvoir's Night Vision Laboratory), as well as interpretation equipment such as light tables and microstereoscopes are evaluated by the Branch. A force of seventeen working PI's is employed for equipment effectiveness testing. A major T&E activity will begin in the near future when the Army Tactical Imagery

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SUBJECT : Trip Report

Interpretation Facility (TIIF) prototype is delivered by [redacted] Included in this assessment effort will be a specific evaluation of the [redacted] Zoom 240 Microstereoscope. It is recommended that [redacted] Test & Evaluation Branch personnel become fully aware of the Fort Huachuca activities, techniques, and schedules in order to assess their specific relevance to NPIC equipment evaluation procedures. (See Attachments 3 and 4.)

3. On 8 October 1969, [redacted] was visited [redacted] Purpose of the visit was to discuss Project [redacted] an ARPA-funded effort developing the capability to monitor human eye movements covertly. [redacted] is assisting the [redacted] equipment development under subcontract. The project is currently being monitored by [redacted] of the Army Human Engineering Laboratory at Aberdeen Proving Grounds, Maryland. Prior to its ARPA sponsorship at [redacted] was funded by DDS&T/ORD under the code name [redacted] at the [redacted] Primary Agency and DoD interest in an eye movements monitoring device has been as an adjunct or substitute for polygraph interrogation of prisoners. Not only the subject's visual fixation point on a rear projection screen display can be recorded, but also his dynamic pupil size, blink rate, and scan velocity, all without any head restraint. A hidden, continuously steerable video camera monitors the changing geometry of a reflected, visible source highlight in the subject's eye in relation to the center of his pupil. Digitizing equipment is then used to reconstruct a plot of the observer's gaze behavior. The ultimate goal of real time data reduction has not yet been approached. However, this objective need not necessarily apply to an NPIC implementation of the technique as a research tool for studying PI visual search characteristics. It is recommended that RED [redacted] personnel remain closely abreast of the EG&G/[redacted] effort and relate the results to Center functions as appropriate.

4. Also on 8 October 1969, the Naval Weapons Center at China Lake, California was visited. Contacted was [redacted] Head of the Human Factors Branch, Aviation Ordnance Department. Close liaison with [redacted] has been maintained by RED [redacted] during the past two years. Mr. [redacted] research on visual target detection and identification and on line scan display systems has proven to be of direct relevance to NPIC interests. It is anticipated that he will be submitted for SI-T-K clearances in the near future. Most of [redacted] more relevant reports may be obtained in [redacted] and are listed chronologically as follows:

A) Visual Search Performance in a Moving, Structured Field, March 1964

B) Relation Between Visual Search Time and Peripheral Visual Acuity, April 1964

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- C) Visual Search for Targets: Laboratory Experiments,
October 1964
- D) Visual Detection of Targets: Analysis and Review,
February 1965
- E) Visual Search Experiments: Acuity, Response Time, and Noise
Persistence, May 1965
- F) Target Acquisition on Television: Preliminary Experiments,
August 1966
- G) Comparison of Visual Search by Pilots and High School Students,
December 1966
- H) Airborne Television Monitor Evaluation,
January 1967
- I) Laboratory Vision Tests of Military Aircrewmen,
April 1968
- J) Human Factors Experiments with Television,
October 1968
- K) Television Research Requirements Study,
April 1969
- L) Vehicle Identification on Television,
July 1969
- M) Relative Effects of Raster Scan Lines and Image Subtense on
Symbol Legibility on Television, August 1969
- N) Identification via Television: Size and Scan Lines,
August 1969

(See Attachment 5)

5. On 9 October 1969, [REDACTED]

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[REDACTED] is one of the nation's foremost human factors contractors. This orientation visit was the first RED [REDACTED] contact with the company, whose headquarters is in [REDACTED] Little specifically PI-oriented research has been undertaken by [REDACTED] [REDACTED] has performed some past

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25X1 investigations for ONR into the "contribution of additive color photography and projection to photo interpretation," but has been inactive in the PI field for a number of years. [] research most relevant to NPIC problems is in the fields of human performance measurement, equipment human engineering, and human visual perception. Studies of naval aviator selection, training, and performance prediction as well as of the night visual approach to aircraft carrier landings were discussed in some depth. 25X1 [] general capabilities in the human factors field were quite impressive. Its resources will be considered for future application to NPIC R&D programs if appropriate. (See Attachment 6.)

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[] ATB/RED/TSSG

Attachments: a/s

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